UNITED STATES PATENT AND TRADEMARK OFFICE

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EXAMINER
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ART UNIT	PAPER NUMBER
2624	

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Please find below and/or attached an Office communication concerning this application or proceeding.

PTO-90C (Rev. 10/03)

	Application No.	Applicant(s)
Office Action Summary	09/678,017	WANDA ET AL.
	Examiner	Art Unit	
	Thierry L. Pham	2624	

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE <u>3</u> MONTH(S) FROM
THE MAILING DATE OF THIS COMMUNICATION.
- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed
  after SIX (6) MONTHS from the mailing date of this communication.
- If the period for reply specified above is less than thirty (30) days, a reply within the statutory minimum of thirty (30) days will be considered timely.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133).
  Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any
  earned patent term adjustment. See 37 CFR 1.704(b).

Status

1) ☒ Responsive to communication(s) filed on *29 April 2005*.

2a) ☐ This action is **FINAL.**   2b) ☒ This action is non-final.

3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is
closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

4) ☒ Claim(s) *1,2,4-14,16-21,23-33,35-40,42-52,54-59,61-71 and 73-76* is/are pending in the application.

4a) Of the above claim(s) _____ is/are withdrawn from consideration.

5) ☐ Claim(s) _____ is/are allowed.

6) ☒ Claim(s) *1,2,4-14,16-21,23-33,35-40,42-52,54-59,61-71 and 73-76* is/are rejected.

7) ☐ Claim(s) _____ is/are objected to.

8) ☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

9) ☐ The specification is objected to by the Examiner.

10) ☐ The drawing(s) filed on _____ is/are: a) ☐ accepted or b) ☐ objected to by the Examiner.

Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).

Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).

11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

12) ☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).

a) ☐ All   b) ☐ Some * c) ☐ None of:

1. ☐ Certified copies of the priority documents have been received.

2. ☐ Certified copies of the priority documents have been received in Application No. _____.

3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage
application from the International Bureau (PCT Rule 17.2(a)).

* See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

1) ☒ Notice of References Cited (PTO-892)
2) ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)
3) ☐ Information Disclosure Statement(s) (PTO-1449 or PTO/SB/08)
Paper No(s)/Mail Date _____.

4) ☐ Interview Summary (PTO-413)
Paper No(s)/Mail Date. _____.
5) ☐ Notice of Informal Patent Application (PTO-152)
6) ☐ Other: _____.

DETAILED ACTION

● This action is responsive to the following communication: RCE filed on 4/29/05.

● Claims 1-2, 4-14, 16-21, 23-33, 35-40, 42-52, 54-59, 61-71, and 73-76 are pending in application; wherein claims 3, 15, 22, 34, 41, 53, 60, and 72 have been canceled.

Claim Rejections - 35 USC § 101

Whoever invents or discovers any new and useful process, machine, manufacture, or composition of matter or any new and useful improvement thereof, may obtain a patent therefore, subject to the conditions and requirements of this title.

Claims 58-59, 61-71, and 73-76 are rejected under 35 U.S.C. 101 because the claimed invention is directed to non-statutory subject matter.

The claimed invention is a computer related invention. The Computer-Implemented Invention Guidelines issued by the U.S. Patent and Trademark Office describe the procedures for examining such inventions.

The first step is to determine whether the invention as defined by the claims falls within one of the three following categories of unpatentable subject matter: (1) Functional descriptive material such as a data structure *per se* or a computer program *per se*, (2) Non-functional descriptive material such as music, literary works or pure data, embodied on a computer readable medium; or (3) A natural phenomenon such as energy or magnetism. The invention as defined by the claims is not a natural phenomenon or pure data, however, it is a computer program per se, which does not mount/store on any computer-readable medium; therefore, these claims are rejected for non-statutory basis.

Claim Rejections - 35 USC § 103

The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negatived by the manner in which the invention was made.

Claims 1-2, 4-5, 8, 20-21, 23-24, 27, 39-40, 42-43, 46, 58-59, 61-62, and 65 are rejected under

35 U.S.C. 103(a) as being unpatentable over Mori et al (US 6433882), and in view of Cooper et

al (US 6816270).

Regarding claim 1, Mori discloses an information processing apparatus (host computer

10 includes page separation unit for dividing/separating a print job into multiple EMF

pages/files, fig. 2b and fig. 3) for dividing a print job to make a plurality of printers (printers 30a

and 30b, fig. 14) execute a print process, comprising:

• spooling means (host computer 10 includes spooler 16 for spooling EMF files generated by

application program 11, *which was converted by GDI 13 of fig. 2b, col. 7, lines 26-31*) for

spooling device-independent-format data converted from data provided by an application;

• assignment means (host computer includes spool file processor for assigning the divided pages

of EMF to printers, fig. 2b, fig. 3 and fig. 14) for generating from the device-independent-format

data spooled by said spooling means, a plurality of pieces of divided print data for distribution

printing (distributing to plurality of printers as shown in fig. 14), the divided print data being

formed in device-independent format (spool data file includes plurality of divided EMF pages,

fig. 3, col. 6, lines 30-35 and col. 8, lines 5-10);

• output means (host computer includes spooler file processor 20 for outputting the plurality of

EMF pages to respective printer drivers as shown in fig. 14, col. 6, lines 62-67 to col. 7, lines 1-

12) for outputting the plurality of pieces of divided print data generated by said assignment

means to respective corresponding printer drivers (host computer includes plurality of printer

drivers for converting EMF files to respective printer's language format such as PCL, Postcript,

and etc., col. 6, lines 62-67 to col. 7, lines 1-16); and

• output control means (spool file processing unit 20 for outputting plurality of EMF files/pages,

fig. 2b, fig. 3, fig. 14) for outputting a plurality of pieces of print data, generated in a device-

dependent format (host computer includes code generator 29 for converting EMF files/pages to

compatible printer's languages in dependent format, fig. 2b, fig. 14, col. 7, lines 33-42) from the

respective ones of the plurality of pieces of divided print data (from plurality of divided EMF

files/pages, fig. 3-4) output by said output means, to the respective ones of the plurality of

printers (printers 30a and 30b, fig. 14), wherein said assignment means is able to assign the

plurality of pieces of divided print data in the device-independent format to printer drivers (assigning plurality of EMF files/pages to plurality of printer drivers that further converts EMF to dependent format that is compatible with output printers, col. 6, lines 62-67 to col. 7, lines 1-16) that generate different types of print data, and the plurality of print jobs are able to be described in respective different printer languages (different languages such as PCL and Postscript, col. 7, lines 1-14) by the plurality of printer drivers (plurality of different printer drivers, col. 7, lines 1-14).

Mori also teaches host computer 10 includes a printer driver 12 (fig. 2b), which is independent of each of the plurality of printer drivers (plurality of printer drivers for controlling code generators 29 with respect to plurality of different printers 30, fig. 14, col. 6, lines 56-67 to col. 7, lines 1-18 and col. 16, lines 36-62) corresponding to the plurality of printers (printers 30a and 30b, fig. 14), ***but fails to teach and/or suggest*** printer driver 12 for converting print data generated from an application program into a device-independent format. In other words, EMF files as taught by Mori are converted via using GDI 13 of fig. 2B and not via using printer driver 12.

Cooper, in the same field of endeavor for printing, teaches that it is known in the art at the time of the invention was made to have an intelligent printer driver 402 (fig. 4) for converting print data generated from an application program into a device-independent format (col. 6, lines 35-40).

It would have been obvious to one of ordinary skill in the art at the time of the invention was made to modify the printer driver of Mori to include a method for converting print job data into a device-independent format as taught by Cooper because of a following reason: (•) allowing printer driver 12 of Mori to convert print job data into a device-independent format without having to implement a GDI 13 (see fig. 2b of Mori), thereby, reducing hardware and software costs.

Therefore, it would have been obvious to combine Mori with Cooper to obtain the invention as specified in claim 1.

Regarding claim 2, Mori further discloses an information processing apparatus according to claim 1, further comprising registering means for registering a plurality of output destination printers (printers 30a and 30b, fig. 14).

Regarding claim 4, Mori further teaches an information processing apparatus according to claim 1, further comprising judging means (spool file processing unit includes judging means, col. 9, lines 15-32) for judging a combination of the plurality of printers and judging whether device dependent data or device independent data (types of print data, col. 9, lines 15-32) is spooled.

Regarding claim 5, Mori further teaches an information processing apparatus according to claim 4, wherein said judging means judges (spool file processing unit, fig. 2b) whether all of the plurality of printers are printers using a printer language capable of dividing the print job in a page unit (dividing print job into multiple EMF pages/files, fig. 4).

Regarding claim 8, Mori further teaches an information processing apparatus according to claim 4, wherein the device dependent data is RAW (i.e. PCL, fig. 14) data and device independent data is EMF (EMF, fig. 3).

Regarding claims 20-21, 23-24, and 27: Claims 20-21, 23-24, and 27 are the methods corresponding the apparatus and recite limitations that are similar and in the same scope of invention as to those in claims 1-2, 4-5, 8 (respectively); therefore, claims 20-21, 23-24, and 27 are rejected for the same rejection rationale/basis as described in claims 1-2, 4-5, 8 (respectively) above.

Regarding claims 39-40, 42-43, and 46: Claims 39-40, 42-43, and 46 recite limitations that are similar and in the same scope of invention as to those in claims 1-2, 4-5, 8 (respectively) except computer readable memory for storing computer programs. All computers/printers have some type of computer readable medium (i.e. RAM, fig. 2a) for storing computer programs,

hence claims 39-40, 42-43, and 46would be rejected using the same rationale as in claims 1-2, 4-5, 8 (respectively).

Regarding claims 58-59, 61-62, and 65: Claims 58-59, 61-62, and 65 recite limitations that are similar and in the same scope of invention as to those in claims 1-2, 4-5, 8 (respectively) except computer readable memory for storing computer programs. All computers/printers have some type of computer readable medium (i.e. RAM, fig. 2a) for storing computer programs, hence claims 58-59, 61-62, and 65would be rejected using the same rationale as in claims 1-2, 4-5, 8 (respectively).

Claims 6-7, 9-14, 16-19, 25-26, 28-33, 35-38, 44-45, 47-52, 54-57, 63-64, 66-71, 73-76 are rejected under 35 U.S.C. 103(a) as being unpatentable over Mori and Cooper as described in claims 1, 20, 39, 58 above, and in view of Mima et al (U.S. 2002/0101604).

Regarding claim 11, combinations of Mori and Cooper fail to explicitly disclose an information processing apparatus comprising:

(•) re-arranging means for re-arranging a combination of a plurality of printers for outputting the divided print jobs, among the plurality of printers registered by said registering means, if a printer for outputting the divided print job cannot execute a print process; and

(•) report forming means for forming a distributed printing result report in accordance with a distributed printing result obtained by the printers by the printers re-arranged by said re-arranging means, wherein after the distributed printing by the re-arranged printers, the distributed printing result report formed by said report forming means is output to one of the re-arranged printers.

Mima, in the same field of endeavor for printing, teaches an information processing apparatus comprising:

(•) re-arranging means (if the errors occur in of the distributed printers, then transmitting the unprinted data to other printer, page 6, par. 62-64) for re-arranging a combination of a plurality of printers for outputting the divided print jobs (dividing a print job into multiple small jobs (parallel printings, fig. 2, page 1, par. 12 and page 2, pars. 17-19), among the plurality of printers

registered by said registering means, if a printer for outputting the divided print job cannot execute a print process; and

(●) report forming means (error handler, fig. 8) for forming a distributed printing result report in accordance with a distributed printing result obtained by the printers by the printers re-arranged by said re-arranging means, wherein after the distributed printing by the re-arranged printers, the distributed printing result report formed (print reports, page 4, par. 45-51)by said report forming means is output to one of the re-arranged printers.

It would have been obvious to one of ordinary skill in the art at the time of the invention was made to modify inventions of Mori and Cooper to include re-arranging and report forming means as per teachings of Mima because of a following reason: (●) by dividing a print job into multiple small jobs and distributing (parallel printings) it to a plurality of printers will reduce processing/printing time and to improve the efficiency/performance of the network printers (Mima, page 1, par. 12) by allowing other available printers to complete the unfinished print data.

Therefore, it would have been obvious to combine Mori and Cooper with Mima to obtain the invention as specified in claim 11.

Regarding claim 6, Mima further teaches an information processing apparatus according to claim 4, wherein said judging means judges whether all of the plurality of printers are printers of a same type (figs. 1 and 5).

Regarding claim 7, Mima further teaches an information processing apparatus according to claim 4, wherein said judging means judges whether all of the plurality of printers have a same printer drivers (device driver incorporated in the computer controls plurality of printers; therefore, all printers are using the same printer driver, fig. 2).

Regarding claim 9, Mima further teaches an information processing apparatus according to claim 1, further comprising:

(●) judging means (document monitor, fig. 2) for judging whether a page number of a page to be printed can be designated (designating a particular page from a print job to be printed, page 1, par. 12) in the print job to be output from each printer; and

(●) transfer control means (computer, fig. 2) for copying the print job as many as the number of printers for outputting the divided print jobs (a single job can be transmitted to multiple printers connected via network, fig. 1), adding a page number (page 4, par. 49) of a page to be printed to each of the copied print jobs, and transferring the copied print jobs to the printers, if said judging means judges that the page number can be designated, and if said judging means judges that the page number cannot be designated, dividing the print jobs for each page to be printed at the printers for distributed printing and transferring the divided print jobs to the printers (dividing a print job into multiple small jobs (parallel printings, fig. 2, page 1, par. 12 and page 2, pars. 17-19).

Regarding claim 10, Mima further teaches an information processing apparatus according to claim 9, wherein said judging means judges from page designation print performance information of each printer whether the page number of a page to be printed can be designated in the print job to be output from each printer (print report corresponding to each printers, fig. 6, page 4, par. 46-49).

Regarding claim 12, Mima further teaches an information processing apparatus according to claim 2, further comprising distributed data generating means for dividing the print job and making a printer driver corresponding to each printer generate print data to print the print data (device driver, fig. 2, for converting document data into print data, page 3, par. 42) at the printers registered by said registering means, wherein said distributed data generating means controls each printer driver to generate the print data added with an off-line command (page 1, par. 13).

Regarding claim 13, Mima further teaches an information processing apparatus according to claim 12, wherein the printer driver (printer driver is incorporated in the computers and these computers control the printers, fig. 2) corresponding to each of the printers registered by said registering means generate the print data.

Regarding claim 14, Mima further teaches an information process apparatus according to claim 11, wherein if all the printers cannot execute the print process, this effect is output to a printer which outputs the distributed printing result when an error occurs (malfunction within the printers, fig. 6, page 2, par. 17-19).

Regarding claim 16, Mima further teaches an information processing apparatus according to claim 12, wherein said registering means registers a printer to which the distributed printing result report (output printing result report, page 2, par. 17-19 and page 4, par. 45-49) is output.

Regarding claim 17, Mima further teaches an information processing apparatus according to claim 11, wherein the print data is generated by adding an off-line command (a command to designate a particular page of a document to be printed, page 2, par. 20) to the print data for distributed printing.

Regarding claim 18, Mima further teaches an information processing apparatus according to claim 11, further comprising:
(•) judging means for judging whether each of the printers registered by said registering means outputs the print job normally (normal printing message, page 4, par. 45);
(•) wherein the distributed printing result formed by said report forming means is output to a printer to which the report is output, if said judging means judges that the print job for each printer cannot output normally (output printing result report including malfunction errors occur within the printers, page 2, par. 17-19 and page 4, par. 45-49).

Regarding claim 19, Mima further teaches an information processing apparatus according to claim 11, further comprising: detecting means (printer monitor, fig. 1) for detecting a print job process error (errors occur within the printers, page 2, par. 18-19) by monitoring a process state of the print job distributed to the printers by said output control means, wherein said re-arranging means re-arranges (designate to a different printers for outputting unprinted data, page 2, par. 18-

19 and page 6, par. 62-647) a combination of a plurality of printers capable of normally outputting the print job distributed to the printers by said output control means, in accordance with a detection result of the print job process error by said detecting means.

Regarding claims 25-26, 28-33, 35-38 are the methods corresponding the apparatus and recite limitations that are similar and in the same scope of invention as to those in claims 6-7, 9-14, 16-19; therefore, claims 23-33, 35-38 are rejected for the same rejection rationale/basis as described in claims 6-7, 9-14, 16-19 above.

Regarding claims 44-45, 47-52, 54-57: Claims 44-45, 47-52, 54-57 recite limitations that are similar and in the same scope of invention as to those in claims 6-7, 9-14, 16-19 except computer readable memory for storing computer programs. All computers/printers have some type of computer readable medium (i.e. RAM, fig. 2a, Mori) for storing computer programs, hence claims 44-45, 47-52, 54-57 would be rejected using the same rationale as in claims 6-7, 9-14, 16-19.

Regarding claims 63-64, 66-71, 73-76: Claims 63-64, 66-71, 73-76 recite limitations that are similar and in the same scope of invention as to those in claims 6-7, 9-14, 16-19 except computer readable memory for storing computer programs. All computers/printers have some type of computer readable medium (i.e. RAM, fig. 2a, Mori) for storing computer programs, hence claims 63-64, 66-71, 73-76 would be rejected using the same rationale as in claims 6-7, 9-14, 16-19.

Response to Arguments

Applicant's arguments with respect to claims 1, 20, 39, and 58 have been considered but are moot in view of the new ground(s) of rejection due to newly added limitations as presented in claims 1, 20, 39, and 58.

• Regarding claims 1, 20, 39, and 58, the applicants argued cited prior art of record (US 6433882) fails to teach and/or suggest "where the spooled device-independent-format data is

converted by a distributed printing printer driver that is independent of each of the plurality of printer drivers corresponding to the plurality of printers".

In response, the examiner notes that applicants are argued subject matters that were not previous presented/cited.

Conclusion

Any inquiry concerning this communication or earlier communications from the examiner should be directed to Thierry L. Pham whose telephone number is (571) 272-7439. The examiner can normally be reached on M-F (9:30 AM - 6:00 PM).

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, David K. Moore can be reached on (571)272-7437. The fax phone number for the organization where this application or proceeding is assigned is 703-872-9306.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see http://pair-direct.uspto.gov. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free).

Thierry L. Pham

GABRIEL GARCIA
PRIMARY EXAMINER